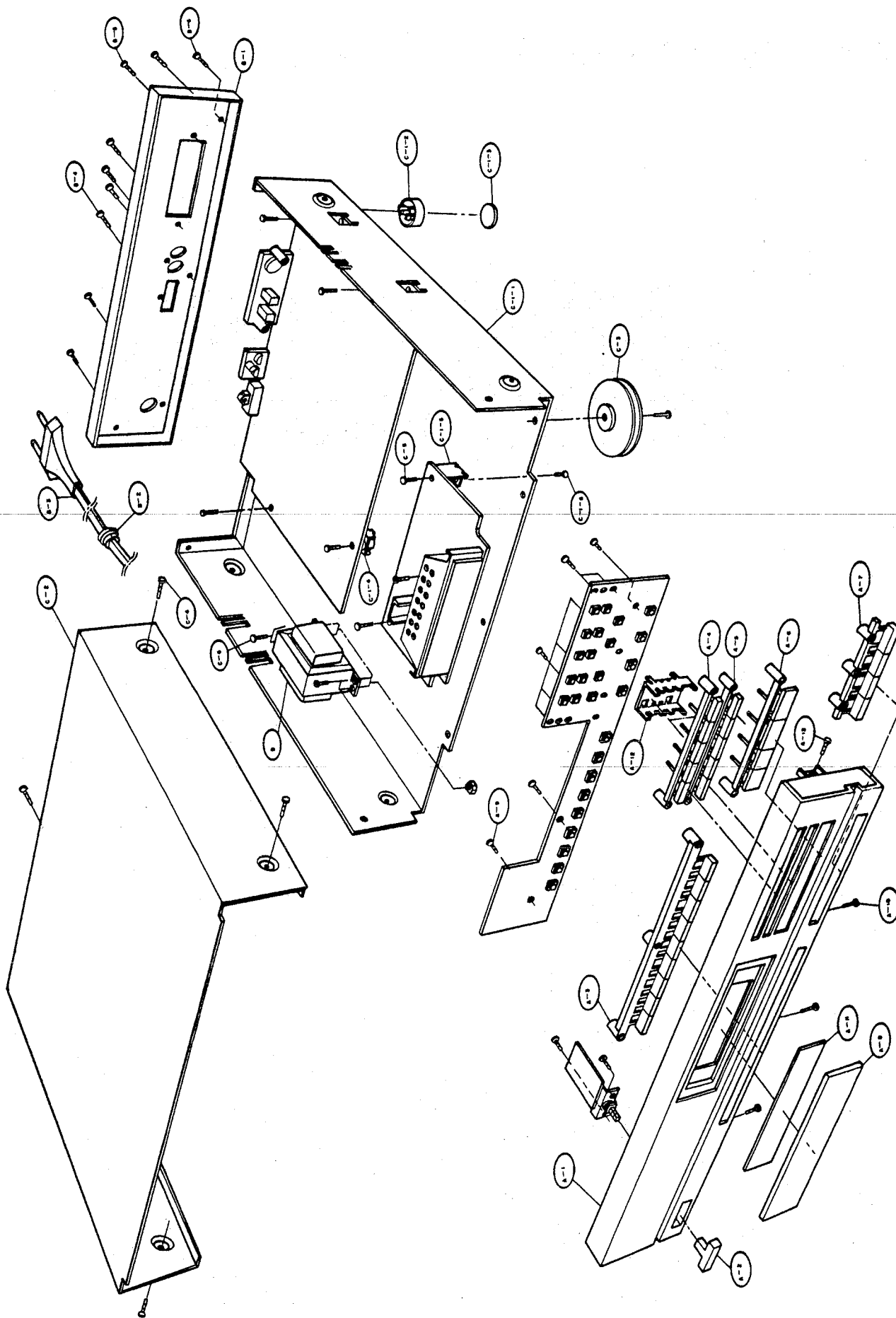


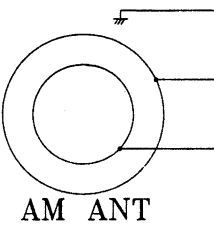
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GERÄTEBEZEICHNUNG	UNIV.-TUNER
WARENGATTUNG	653
AUSFÜHRUNGS-NR.	001
GERÄTEBESCHREIBUNG	
PRIVILEG	T 4315
LIEFERANTEN-NR.	201888
PREIS	198.00
KATALOG	914
GARANTIEZEIT	6
KD-SEKTOR	R
HEIM/BRINGE	WERKSTATT
BETREUUNG	EIGEN
KOSTENTRAEGER	EIGEN
REPARATURFAEHIG	JA



FM 75 Ohm

#MAIN PCB

FM FRONT END
FE415-G60



GND

1 IN

2

7 IF OUT

6 12V

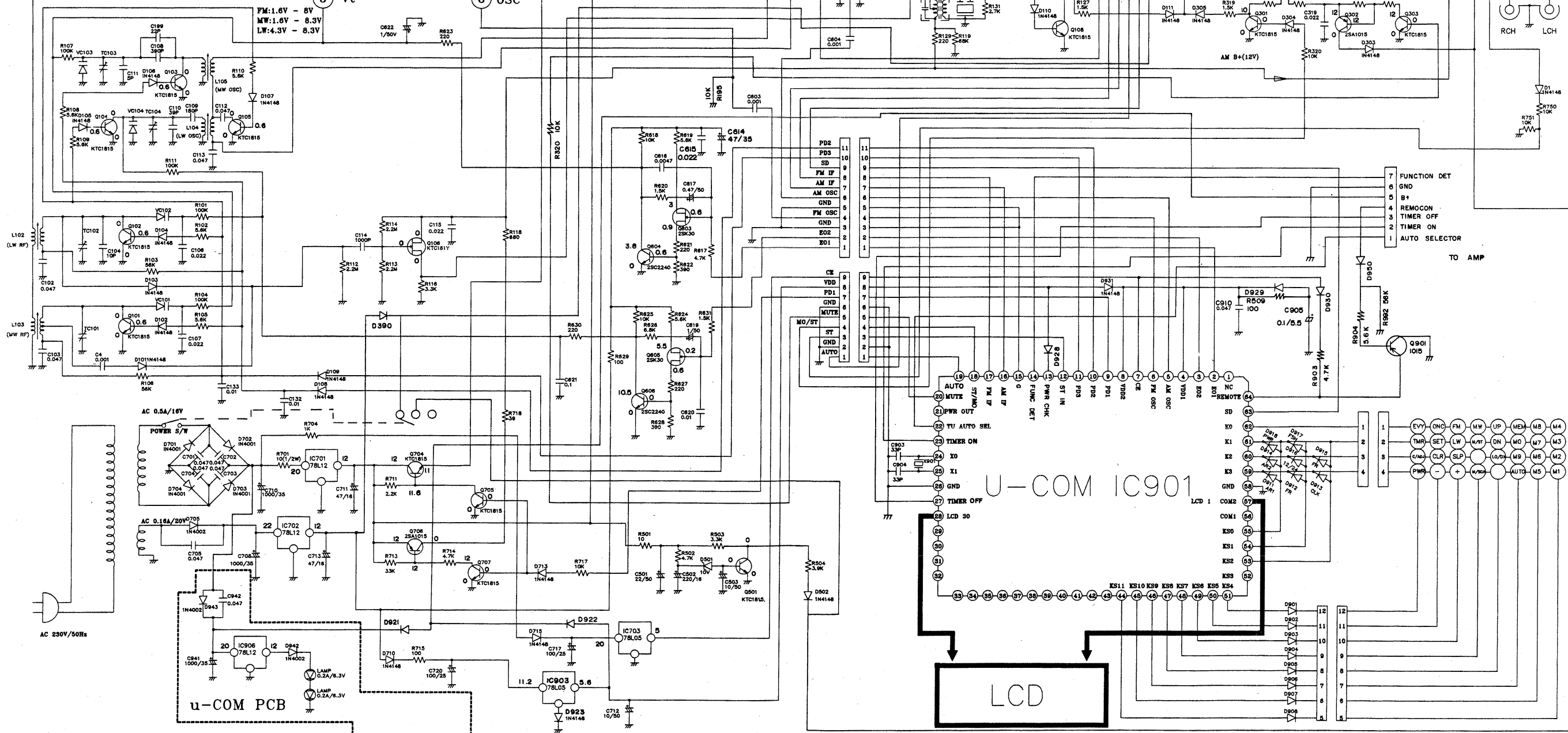
3 B+

AGC

5 Vt

8 OSC

FM:1.6V - 8V
MW:1.6V - 8.3V
LW:4.3V - 8.3V



U-COM IC901

LCD

- 7 FUNCTION DET
- 6 GND
- 5 B+
- 4 REMOCON
- 3 TIMER OFF
- 2 TIMER ON
- 1 AUTO SELECTOR

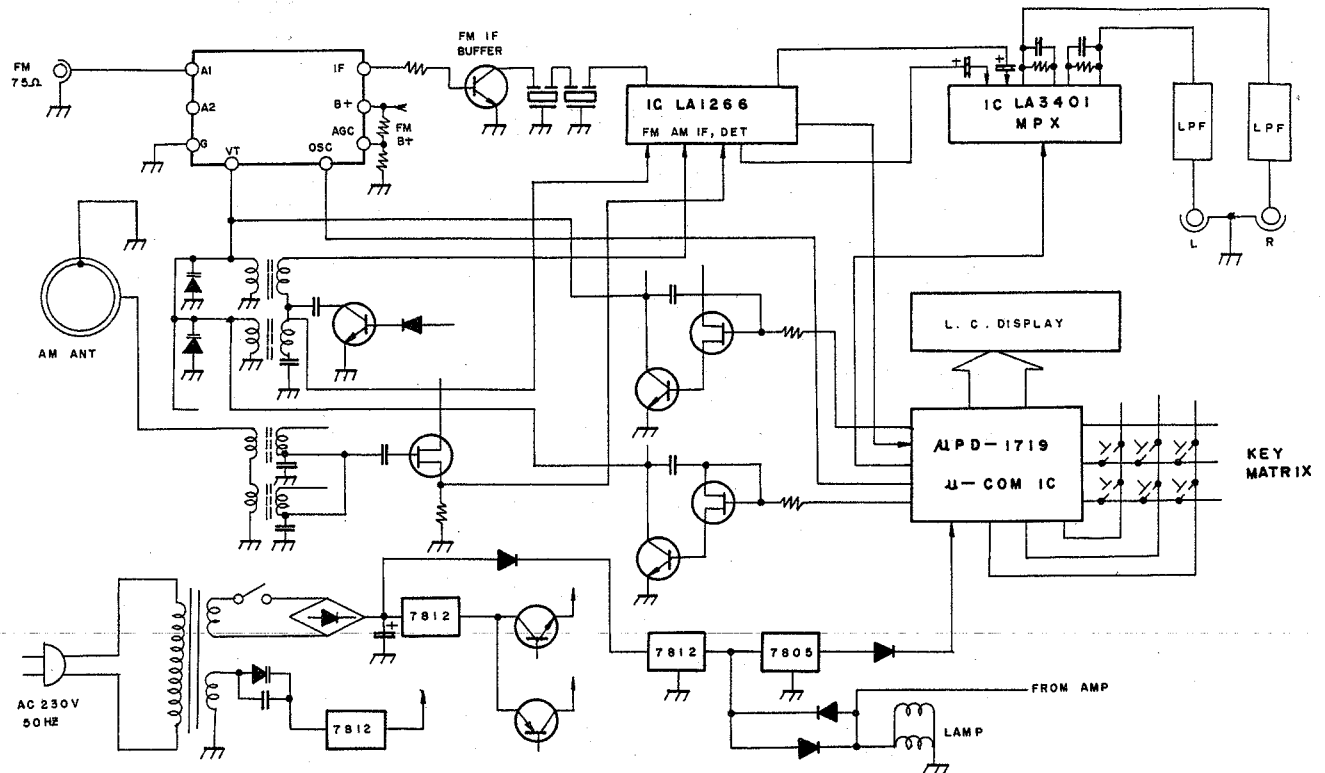
TO AMP

- 1 EVY
- 2 TMR
- 3 C/AB
- 4 PWR
- 5 ONC
- 6 SET
- 7 CLR
- 8 SLP
- 9 +
- 10 -
- 11 FM
- 12 MW
- 13 UP
- 14 DN
- 15 MEA
- 16 M8
- 17 M4
- 18 M3
- 19 M2
- 20 M1
- 21 M5
- 22 M6
- 23 M7
- 24 M9
- 25 M10
- 26 M11
- 27 M12
- 28 M13
- 29 M14
- 30 M15
- 31 M16
- 32 M17
- 33 M18
- 34 M19
- 35 M20
- 36 M21
- 37 M22
- 38 M23
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- 105 M90
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- 108 M93
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- 110 M95
- 111 M96
- 112 M97
- 113 M98
- 114 M99
- 115 M100

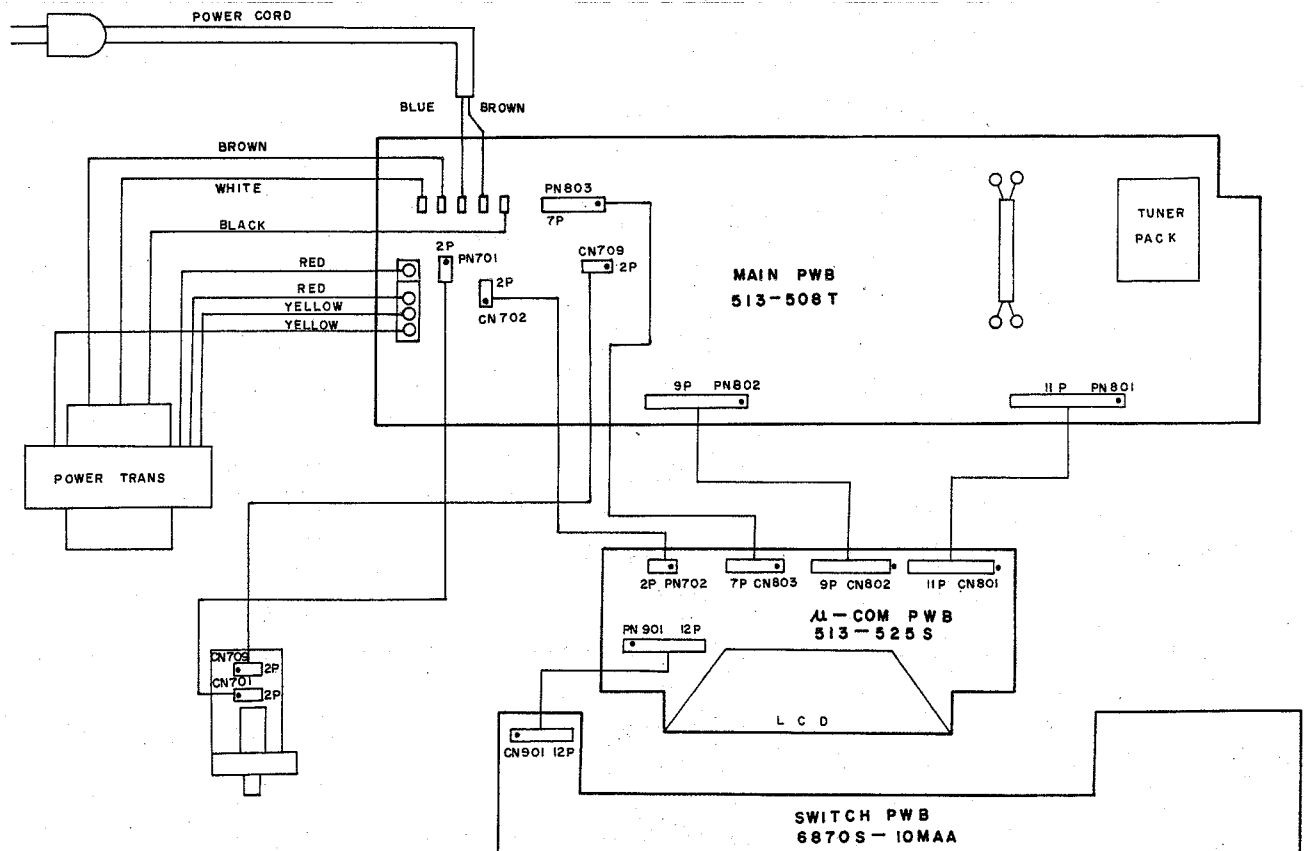
ZEILE	POSITION	SYM BEZEICHNUNG	ET-NUMMER
1			
2		NF-VERB.KABEL 2X CINCH JE SEITE	997 609 3
3		FM-WURFANTENNE 75 OHM-ANSCHLUSS	965 604 2
4	FB	STEUERKABEL,11-PIN	749 379 4
5		AM-HILFSANTENNE	743 441 8
6			
7		<u>GEHAEUSE UND BEDIENTEILE :</u>	
8			
9	A-1	FRONTBLLENDE	749 395 0
10	A-2	KNOPF,POWER	749 406 5
11	A-3	KNOPFLEISTE 9-FACH TIMER-SLEEP	749 400 8
12	A-4	KNOPFLEISTE 5-FACH 1-5	749 397 6
13	A-5	KNOPFLEISTE 5-FACH 6-0	749 401 6
14	A-6	KNOPFLEISTE 4-FACH,UP-DOWN	749 393 5
15	A-7	KNOPFLEISTE 4-FACH FM-ST	749 402 4
16	A-8	FRONTSCHIEBE	749 399 2
17	A-11	FILTERSCHEIBE	749 398 4
18	B-1	RUECKWAND	749 396 8
19	C1-2	FUSS	745 496 0
20	C1-3	FILZ	745 536 3
21	C2	GEHAEUSE-OBERTEIL	749 403 2
22	C3	FUSS,VORNE	749 361 2
23	D	NETZTRAFO	749 405 7
24		ANT.-ANSCHLUSSBUCHSE,AM-FM	749 404 0
25			
26		<u>ELEKTRISCHE TEILE :</u>	
27			
28		NETZTRAFO	749 405 7
29		UKW-TEIL	749 394 3
30		CINCHBUCHSE	745 583 5
31		BUCHSE,11-PIN	749 377 8
32	CF101	AM-KERAMIK-FILTER SFP 450H	734 268 6
33	CF201-203	FM-KERAMIKFILTER SFE 10.7 MS3	733 843 7
34	CF301	AM-KERAMIK-FILTER CSB 456F11	734 269 4
35	D101,103	DIODE 1 N 4148	175 540 4
36	D102,104	DIODE 1 SS 132	725 598 7
37	D105-110	DIODE 1 N 4148	175 540 4
38	D111,112	DIODE 1 SS 132	725 598 7
39	D117-301	DIODE 1 N 4148	175 540 4
40	D303-503	DIODE 1 SS 132	725 598 7
41	D701-704	DIODE 1 N 4001	176 419 0
42	D705	DIODE 1 N 4002	921 523 7
43	D709,716	DIODE 1 SS 132	725 598 7
44	D713-917	DIODE 1 N 4148	175 540 4
45	D920,921	DIODE 1 N 4002	921 523 7
46	D922-952	DIODE 1 N 4148	175 540 4
47	IC201	IC LA 1266	745 481 2
48	IC301	IC LA 3401	743 287 5
49	IC701,702	IC 7812	958 951 6
50	IC703	IC UPC 78 L 05	950 533 0
51	IC901	IC UPD 1719 6-650-12	749 407 3
52	IC902	IC 7812	958 951 6
53	IC903	IC UPC 78 L 05	950 533 0
54	LCD901	DISPLAY HLC 8018-014210	749 408 1
55	LPF301,302	MPX-FILTER	749 409 9
56	L102	LW-ANTENNENSPULE	749 410 7
57	L103	MW-ANTENNEN-FILTER	743 295 8
58	L104	LW-OSZILLATORSPULE	749 411 5
59	L105	MW-OSZILLATORSPULE	746 449 8
60	L201,202	DROSSEL 20.8 MH	749 412 3
61	L203	DROSSEL 39 MH	749 413 1
62	L301	DROSSEL 7.8 MH	749 414 9
63	L302,303	DROSSEL 47UH	733 798 3
64	Q105,108	TRANSISTOR KTC 3198	749 384 4
65	Q106	TRANSISTOR KTK 161 Y	747 695 5
66	Q201	TRANSISTOR 2 SC 380	175 437 3
67	Q301	TRANSISTOR KTC 3198	749 384 4
68	Q302	TRANSISTOR KTA 1266	749 385 1
69	Q303-501	TRANSISTOR KTC 3198	749 384 4
70	Q603,605	TRANSISTOR 2 SK 30 AY	175 984 4
71	Q604,606	TRANSISTOR KTC 3200	749 382 8
72	Q704,705	TRANSISTOR KTC 3198	749 384 4
73	Q706	TRANSISTOR KTA 1266	749 385 1
74	Q707,902	TRANSISTOR KTC 3198	749 384 4
75	Q901	TRANSISTOR KRC 103 S	749 383 6
76	SW900	DRUCKSCHALTER	746 451 4
77	SW901-928	TASTSCHALTER	749 388 5
78	T101	AM-ZF-FILTER	746 453 0
79	T201	FM-ZF-FILTER	743 301 4
80	T202	FM-ZF-FILTER	743 300 6
81	VC101-104	CAP.-DIODE KV 1236 Z1	733 388 3
82	X901	QUARZ 4.5000 MHZ	733 845 2
83	ZD501	Z-DIODE UZ-10 B	734 067 2

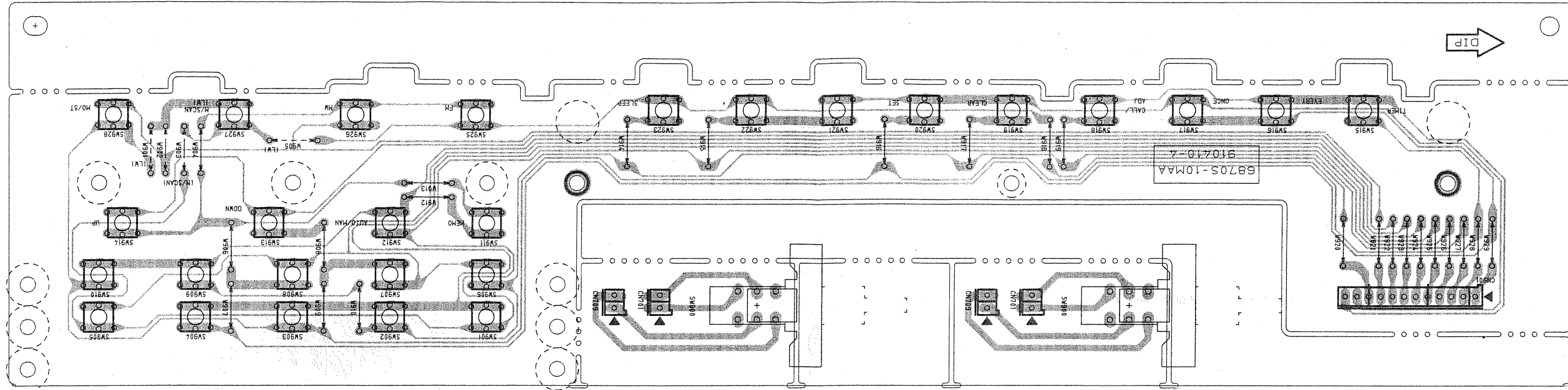
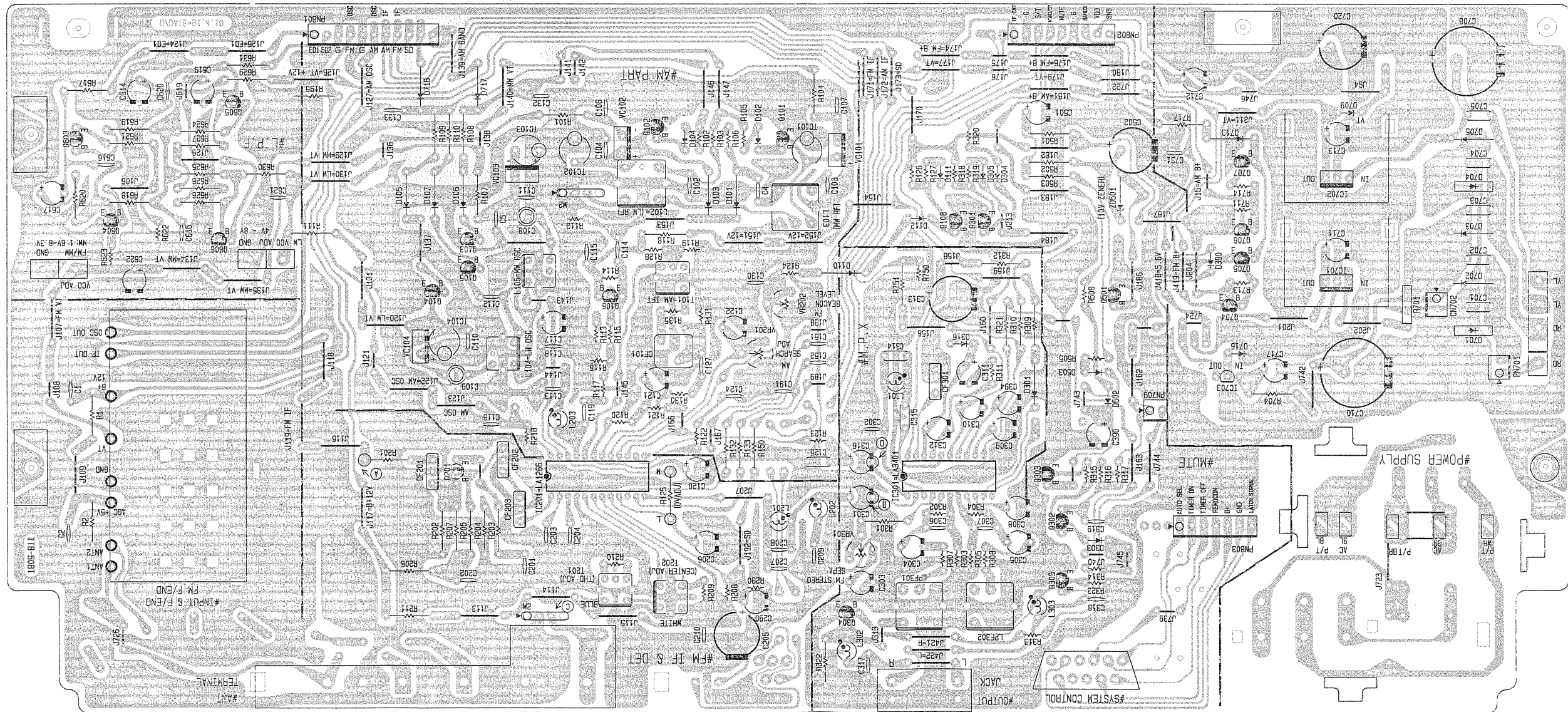
ENDE

BLOCK DIAGRAM



WIRING DIAGRAM





ADJUSTMENTS

This set has been aligned at the factory and normally will not require further adjustment. As a result, it is not recommended that any attempt is made to modify any circuit. If any parts are replaced or if anyone tampers with the adjustment, realignment may be necessary.

IMPORTANT

1. Check power-source voltage.
2. Set the function switch to band being aligned.
3. Keep the signal input as low as possible to adjust accurately.
4. Modulation and modulation frequency:

Item	Band	Modulation	Modulation frequency
	MW/LW		
	FM	400Hz	30%
		1kHz	40kHz Dev.

TEST AND ADJUSTMENT POINTS

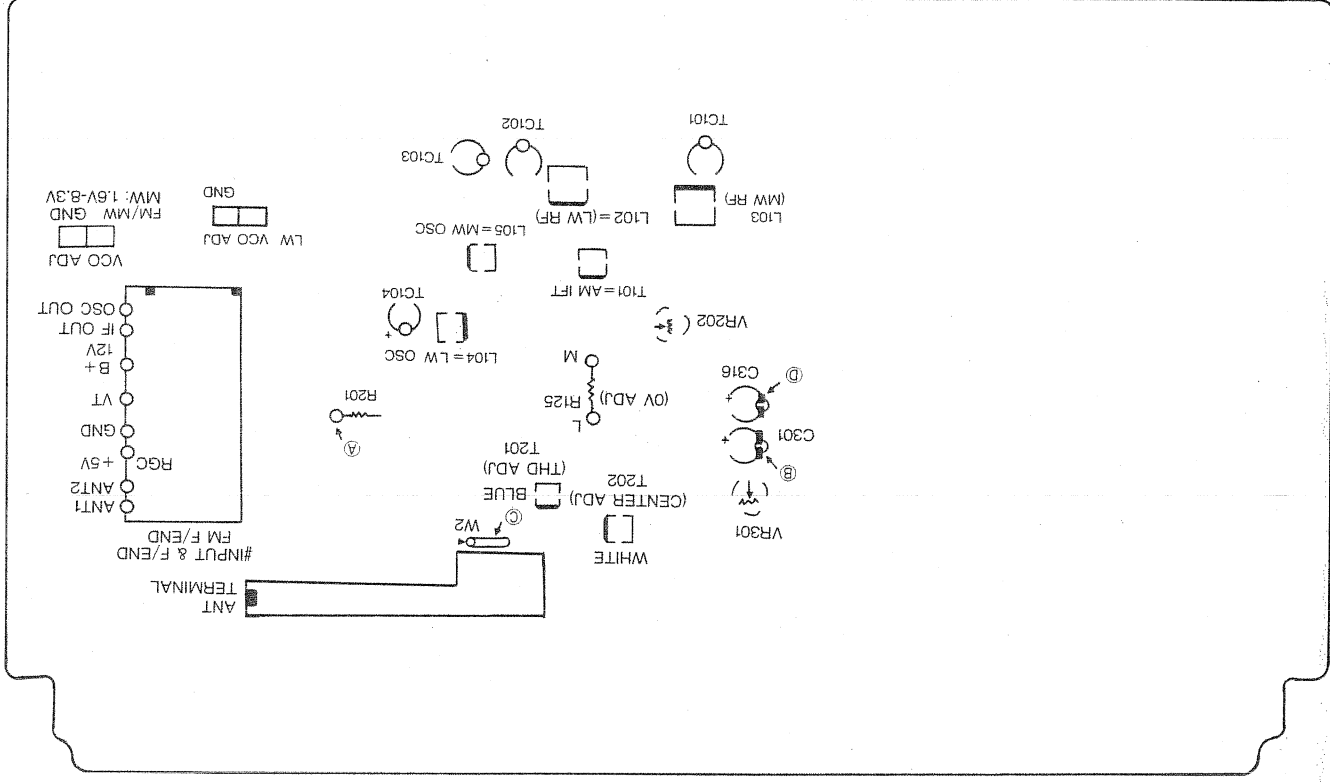
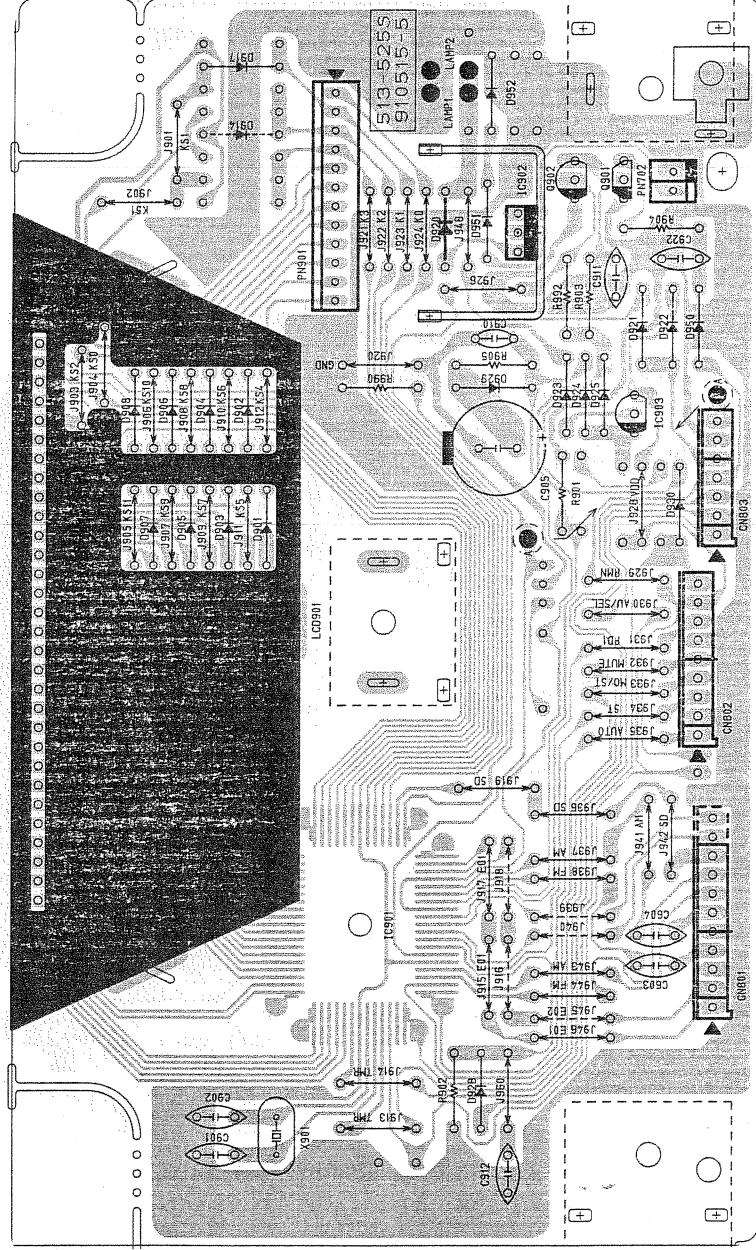


Figure 1. Main P.C.Board View



1. MW/LW IF ADJUSTMENT

IF Genescope..... Connect the input to test point ③-C316 (-), the output to test point ①. Adjust for the IF waveform of Genescope to be maximum.

IF	Adjust For	450KHz	Adjustment
		Maximum	T101

Figure 2. MW/LW IF Adjustment Connection Diagram

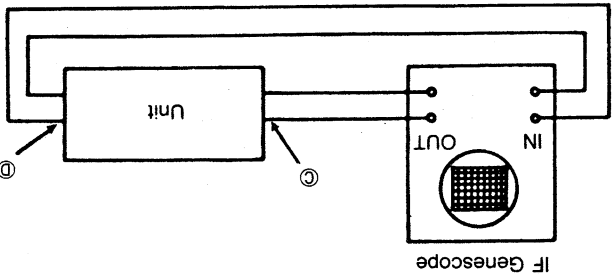
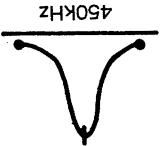


Figure 3. MW IF Curve

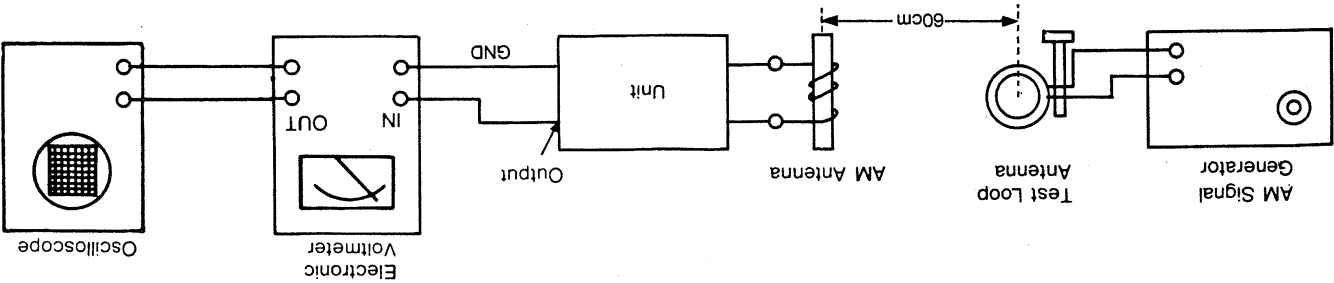


5. FM IF ADJUSTMENT

IF Genescope..... Connect the input to test point ③-C301 (-), the output to test point ①-R201.

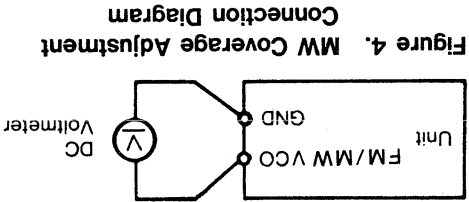
Adjust For	Adjustment	Remarks
Maximum liner S curve	T202	See Figure 8.

Figure 6. MW/LW Tracking Adjustment Connection Diagram



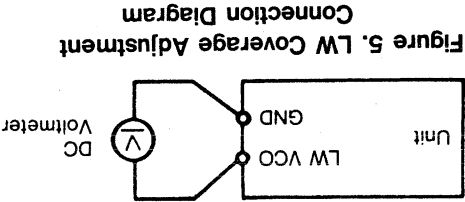
2. MW COVERAGE ADJUSTMENT

DC Voltmeter Connect to FM/MW VCO and GND.



3. LW COVERAGE ADJUSTMENT

DC Voltmeter Connect to LW VCO and GND.



4. MW/LW TRACKING ADJUSTMENT

Signal Generator Connect to the MW/LW antenna coil through the loop antenna. Adjust for the indication of Electronic Voltmeter of the waveform of Oscilloscope to be maximum.

Step	Adjust For	Frequency	Adjustment
1	146 KHz	3.8V	L104
2	290 KHz	8.3V	TC104
3	Repeat steps 1 and 2 several times.		

Step	Band	Frequency	Adjust For	Maximum Sensitivity	Adjustment
1	MW	594KHz	L103	Maximum Sensitivity	L103
2		1404 KHz	TC101	Maximum Sensitivity	TC101
3		Repeat steps 1 and 2 several times.			
1		164 KHz	L102	Maximum Sensitivity	L102
2	LW	254 KHz	TC102	Maximum Sensitivity	TC102
3		Repeat steps 1 and 2 several times.			

7. FM MPX ADJUSTMENT-SEPARATION

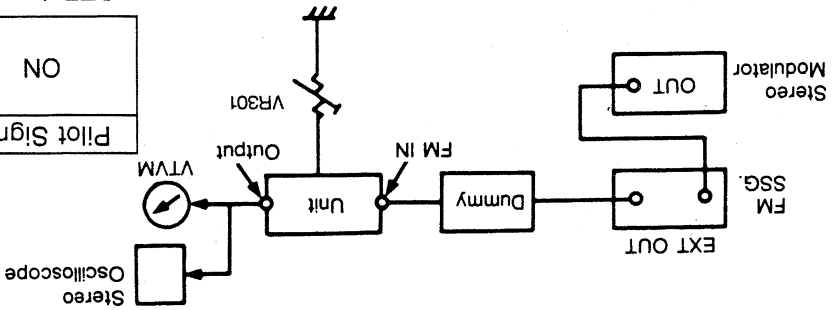


Figure 10. FM MPX Adjustment Connection Diagram

Adjustment	Adjust For	Pilot Signal	ON
		Difference of R and L must be maximum	
		VR301	

NOTE: In case of adjusting the stereo separation, if input is L(or R) channel, R(or L) channel must be maximum.

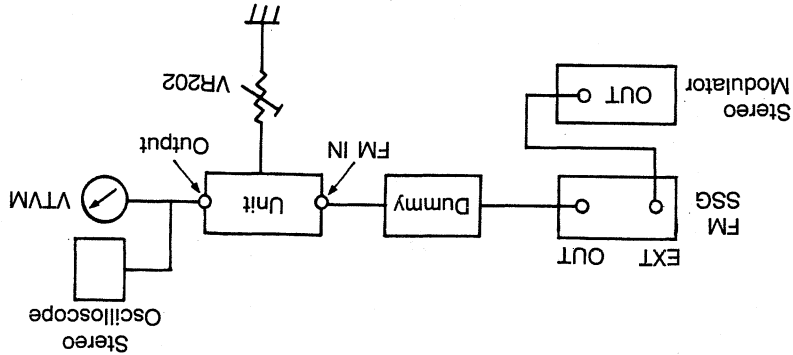
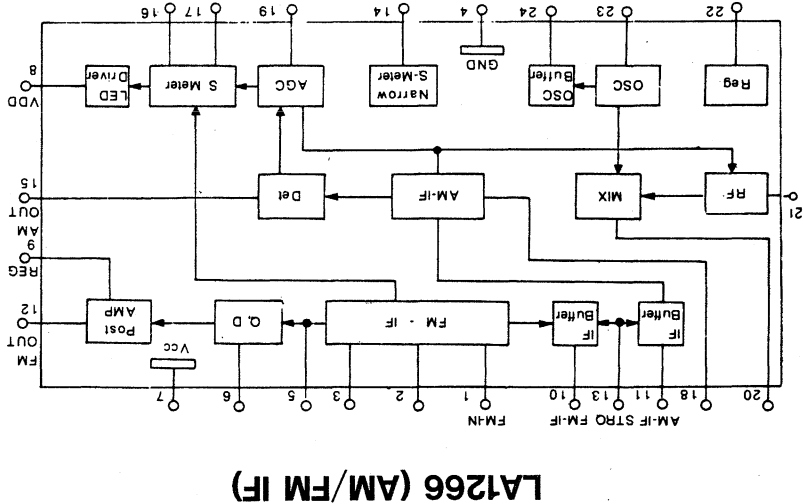


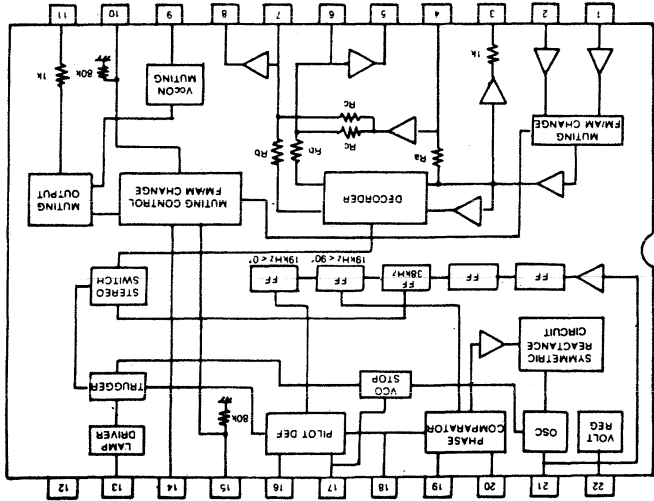
Figure 11. FM Stereo Beacon Sensitivity Adjustment Connection Diagram

Pilot Signal	Input of FM IN	Adjust For	ST LED Display ON	VR202
ON	5.7V			

INTERIOR BLOCK DIAGRAM OF IC



LA1266 (AM/FM IF)



LA3401 (MPX)

μ PC78L05J (Voltage Regulator)

